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| 10/766,949 | 01/30/2004 | Alan J. Lipton | 37112-192025 | 2493 |

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| EXAMINER | |
|---|---|
| PHILIPPE, GIMS S | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/766,949 | LIPTON ET AL. | |
| | Examiner | Art Unit | |
| | Gims S. Philippe | 2621 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *02 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *2-12,14-28,30 and 32-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *42 and 48* is/are allowed.

6)☒ Claim(s) *2-12, 14-28, 30, 32-41, 43-47, 49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

### *Response to Amendment*

1. Applicant's amendment received on March 2nd 2009 has been fully considered and entered, but the arguments are not deemed to be persuasive.

### *Response to Arguments*

2. The applicant argues that Nayar fails to disclose "defining passback direction for a video monitored area" as recited in claim 14.

In response to the applicant's argument, the examiner reminds the applicant that the "defining passback direction" is defined in applicant's own specification as "a track is determined to be the passback direction, and a passback event is detected" (See applicant's own paragraph [0050]. Nayar in col. 9, lines 40-45 clearly discloses a frame grabber 30 providing image frames to a motion detection 92, which algorithmically detects movement of objects within a series of image frames. In addition, in col. 8, lines 21-25, Nayar notes that the close proximity of the PTZ system and WAIS system ensures that the viewing directions of both systems are about the same. To the examiner the combination of the PTZ along with the WAIS does provide the definition of the passback direction. In fact, defining a passback direction is nothing more than tracking a direction of a monitored area as disclosed by Nayar col. 8, lines 21-25. Finally claim 1 of Nayar calls for an imaging system providing a direction information for at least portion of the monitoring area.

The examiner notices that the applicant repeats the same argument that the "defining the passback direction" is not met by the proposed combination of Nayar and the applicant's admitted prior art. The examiner reminds that applicant that paragraphs [0070]-[0071] provides specific admission that passback direction determination are well known in the art. The applicant while arguing, never mentioned that the specification clearly admits that the passback direction is well known in the art.

It is the examiner's belief that the proposed combination of Nayar and the applicant's admitted prior art does cover the claimed limitations as previously demonstrated in the last office action.

The rejection will be repeated for the sake of completeness.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-12, 14-28, 32-41, 43-44, 46-47 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nayar (US Patent no. 62155190) in view of the applicant's admitted prior art).

Regarding claims 14, 37, 38, 39 Nayar discloses a computer-readable medium, comprising software encoded thereon to detect passback events, which software when executed by a computer system, causes the computer system to perform operations comprising a method of defining a passback direction for a video monitored area (See Nayar Fig. 2, col. 7, lines 41-48 with the setting of the PTZ system); accessing video collected from the video monitored area (See Nayar Fig. 2, col. 7, lines 30-41); extracting tracks from the collected video detecting passback events based on the passback direction and said extracted tracks (See Nayar Fig. 6, col. 9, lines 40-45); and initiating an action based on the detected passback events (See Nayar Fig. 6, col. 10, lines 1-9).

It is noted that Nayar is silent about extracting foreground from said collected video to obtain extracted foreground; detecting trackable features based on said extracted foreground; tracking said trackable features based on said extracted foreground to obtain extracted tracks; and filtering said extracted tracks.

However, such steps in passback detection are well know and commonly applied techniques as evidenced by the applicant's own admission in the Specification wherein the step of extracting foreground from said collected video to obtain extracted foreground is indicated in applicant's own Specification page 15, paragraph [0053], lines 2-4; the step of detecting trackable features based on said extracted foreground is provided in applicant's own Specification page 16, paragraph [0054], lines 2-3; and the step of tracking said trackable features based on said extracted foreground to obtain

extracted tracks is evidenced by applicant's own Specification page 16, paragraph [0055], lines 2-3; and the step of filtering the extracted tracks is shown in applicant's own Specification page 16, paragraph [0056], lines 2.

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Nayar and the applicant's admitted prior art teachings that steps such as extracting foreground from said collected video to obtain extracted foreground; detecting trackable features based on said extracted foreground; tracking said trackable features based on said extracted foreground to obtain extracted tracks; and filtering said extracted tracks are well known steps in the surveillance industry. The skilled artisan would be motivated to modify Nayar along with the steps suggested by the applicant's admitted prior art to provide the above steps for the purpose of reducing false alarm as taught by applicant's admitted prior art (See applicant's own Specification paragraph [0053], lines 9-11).

As per claims 24, 27, 41, 44, 47, most of the limitations of these claims have been noted in the above rejection of claims 14, 37, 38, 39.

It is noted that Nayar is silent about detecting optical flow based on extracted foreground of obtained extracted track as specified in the claims.

However, such steps in passback detection are well know as evidenced by the applicant's own admission in the Specification wherein the step of detecting optical flow based on extracted foreground of obtained extracted track is indicated in applicant's own Specification page 18, paragraphs [0070], [0071].

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Nayar and applicant's admitted prior art, would have had no difficulty to add to Nayar the well know steps of detecting optical flow based on extracted foreground of obtained extracted track. The motivation for modifying Nayar's passback detector with applicant's admitted prior art teachings is to provide a more aggressive filtering (See applicant's own Specification paragraph [0053], lines 9-11).

As per claims 32, 43, 46, and 49, most of the limitations of these claims have been noted in the above rejection of claims 14, 37, 38, 39. In addition, the step of generating report with at least date and time of detected event is suggested in Nayar recorded PTZ output where the user is able to view items of interest. To the examiner the items of interest as disclosed in Nayar from col. 9, line 65 to col. 10, lines 9 will provide the report as requested by the user.

As per claim 2, Nayar further discloses passback direction is based on at least one of an image of the video monitored area and video of the video monitored area (See Nayar col. 6, lines 39-46).

As per claim 3, most of the limitations of this claim have been noted in the above rejection of claim 1. In addition, Millet further provides a user-defined passback (See Nayar col. 7, lines 37-46).

As per claims 4-6, most of the limitations of these claims have been noted in the above rejection of claim 1. In addition, Nayar further determines the passback via a graphical user interface adapted to permit a user to draw the passback direction (See Nayar col. 7, lines 37-46). In addition, Nayar suggests a graphical user interface in col. 7, lines 60-67 and col. 8, lines 1-4.

As per claim 7-8, most of the limitations of these claims have been noted in the above rejection of claim 6. In addition, Nayar further suggest learning a normal direction for the monitored area based on the observation of the monitored area, and determining the passback direction based on the normal direction (See Nayar col. 8, lines 16-26). The applicant should note that the process of mapping the coordinate the coordinate of a region to ensure that the viewing directions of both systems are the same is considered equivalent to the learning of the normal direction along with determining the passback direction.

As per claims 9-10, most of the limitations of these claims have been noted in the above rejection of claim 8. Since Nayar suggests the necessity to have additional PTZ to translate object coordinate between systems and in situations where the monitoring area changes as discloses in col. 8, lines 30-41, the step of providing an additional passback direction is considered met by such a disclosure.

As per claims 11 and 36, Nayar further discloses accessing video in real time form a video camera (See Nayar col. 9, lines 65-67 and col. 10, line 1).

As per claim 12, Nayar further suggest the possibility of accessing tracks of stored video (See Nayar col. 10, lines 3-9).

As per claim 40, most of the limitations of this claim have been noted in the above rejection of claim 39. In addition, specific hardware and software adapted to perform the accessing and analyzing are provided by Nayar (See Nayar col. 10, lines 10-26).

As per claim 35, Millet further discloses generating report for each passback event (Nayar from col. 9, line 65 to col. 10, lines 9).

As per claim 33, Nayar further initiates an action in response to passback event detected (See Nayar col. 9, lines 37-45).

As per claim 34, most of the actions claimed are considered necessary in a video surveillance when an alarm situation is triggered. The response disclosed in Nayar col. 9, lines 37-45 is considered meeting the claimed action

As per claims 15-16, 25-26, most of the limitations of these claims have been noted in the above rejection of claims 14.

It is noted that Nayar is silent about extracting background based on pixel statistics and extracting the foreground on three-frame motion differencing.

However, such steps in passback detection are well know and commonly applied techniques as evidenced by the applicant's own admission in the Specification wherein the step of extracting background based on pixel statistics and extracting the foreground on three-frame motion differencing is indicated in applicant's own Specification page 15, paragraph [0053], lines 1-4.

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Nayar and applicant's admitted prior art before him/her, would have had no difficulty to add to Nayar the steps of extracting background based on pixel statistics and extracting the foreground on three-frame motion differencing. The motivation for modifying Nayar's passback detector with applicant's admitted prior art teachings is to reduce false alarm (See applicant's own Specification paragraph [0053], lines 9-11).

As per claims 17-19, most of the limitations of these claims have been noted in the above rejection of claim 14.

It is noted that Nayar is silent about subdividing the foreground of collected video into cells to determine appropriate cells as trackable features.

However, such steps in passback detection are well know and commonly applied techniques as evidenced by the applicant's own admission in the Specification wherein the step of subdividing the foreground of collected video into cells to determine

appropriate cells as trackable features (See applicant's own Specification page 16, paragraphs [0054-0055]).

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Nayar and applicant's admitted prior art before him/her, would have had no difficulty to add to Nayar to the steps of subdividing the foreground of collected video into cells to determine appropriate cells as trackable features. The motivation for modifying Nayar passback detector with applicant's admitted prior art teachings is to provide filtered tracks (See applicant's own Specification paragraph [0056], lines 3). The applicant should note that the step of determining the appropriate cell be based on intensity range in cell and presence of edge in cell which is met by the applicant's admitted prior art paragraph ( See applicant's own Spec. [0055]).

The applicant should also note that the additional steps of updating the correlation and filtering extracting tracks are considered to be met by the applicant's admitted prior art paragraphs [0055-0056 and 0065].

As per claims 20-23, and 28, most of the limitations of these claims have been noted in the above rejection of claim 17-19.

It is noted that Nayar does not perform the steps of two-dimensional correlation in an area predicted from previous tracked features, one-dimensional correlation on a horizontal and vertical projection, and updating previous correlated tracks while filtering out nuisance.

However, such steps in passback detection are well know as evidenced by the applicant's own admission in his/her Specification wherein providing two-dimensional correlation in an area predicted from previous tracked features, one-dimensional correlation on a horizontal and vertical projection, and updating previous correlated tracks while filtering out nuisance are indicated to be well known steps in the art (See applicant's own Specification page 16, paragraphs [0055-0056 and 0065]).

Therefore, it is considered obvious that one skilled in the art at the time of the invention having Nayar and applicant's admitted prior art, would have had no difficulty to add to Nayar the well know steps of providing two-dimensional correlation in an area predicted from previous tracked features, one-dimensional correlation on a horizontal and vertical projection, and updating previous correlated tracks while filtering out nuisance. The motivation for modifying Nayar's passback detector with applicant's admitted prior art teachings is to provide filtered tracks (See applicant's own Specification paragraph [0056], lines 3). The applicant should note that the disclosure of block 52 of paragraph [0065] is also referred to by applicant's own admission in paragraph [0055].

Claims 42 and 48 are allowed over the prior art of record.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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